IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-8 (Canceled)

9. (Previously Presented) A circuit for providing power to a load with a pre-determined specification, comprising:

a transformer having a primary winding and a secondary winding, said secondary winding being part of a resonant circuit;

connection nodes for coupling of the load in series to the secondary winding;

a switch coupled in series to the primary winding, an on-time and an off-time of the switch being controllable by a control element, for generating a voltage pulse over the primary winding;

a diode coupled in parallel to the primary winding for demagnetizing the transformer during the off-time of the switch,

the on-time and the off-time of the switch being predetermined; and

a controller configured to:

determine a maximum oscillation period of the resonant circuit based on a maximum value of a capacitance at a secondary side of the transformer when the load is connected;

choose the on-time of the switch to be higher than half of said maximum oscillation period.

Claim 10 (Canceled)

11.(Previously Presented) A circuit for providing power to a load with a pre-determined specification, comprising:

a transformer having a primary winding and a secondary winding, said secondary winding being part of a resonant circuit;

connection nodes for coupling of the load in series to the secondary winding;

a switch coupled in series to the primary winding, an on-time and an off-time of the switch being controllable by a control element, for generating a voltage pulse over the primary winding;

a diode coupled in parallel to the primary winding for

demagnetizing the transformer during the off-time of the switch, the on-time and the off-time of the switch being predetermined; and

a controller configured to:

calculate a mean value of a short-circuit current over the on-time and the off-time of the switch for a range of couple factors, and

select a couple factor for which the mean value is minimal.

Claims 12-19 (Canceled)

20. (Previously Presented) The circuit of claim 9, wherein the load comprises a gaseous discharge lamp.

21. (Previously Presented) The circuit of claim 9, wherein the load comprises a high-intensity discharge lamp.

22. (Previously Presented) The circuit of claim 9, wherein the controller is further configured to:

calculate a mean value of a short-circuit current over the on-time and the off-time of the switch for a range of couple factors,

and

select a couple factor for which the mean value is minimal.

23.(Previously Presented) The circuit of claim 22, wherein the couple factor is smaller than one.

24.(Previously Presented) The circuit of claim 9, wherein the control element is selected to cause the on-time of the switch to be at least half of a resonance frequency of the resonant circuit.

25.(Previously Presented) The circuit of claim 9, wherein the control element is selected to cause the off-time of the switch to be sufficient to reduce a current in the diode to substantially zero during demagnetization of the transformer.

26.(Previously Presented) The circuit of claim 9, further comprising a resistor connected in series to the diode to reduce the off-time.

27.(Previously Presented) The circuit of claim 11, wherein

the load comprises a gaseous discharge lamp.

28. (Previously Presented) The circuit of claim 11, wherein the load comprises a high-intensity discharge lamp.

29. (Previously Presented) The circuit of claim 11, wherein the couple factor is smaller than one.

30. (Previously Presented) The circuit of claim 11, wherein the controller is further configured to:

determine a maximum oscillation period of the resonant circuit based on a maximum value of a capacitance at a secondary side of the transformer when the load is connected;

choose the on-time of the switch to be higher than half of said maximum oscillation period.

31. (Previously Presented) The circuit of claim 11, wherein the control element is selected to cause the on-time of the switch to be at least half of a resonance frequency of the resonant circuit.

32.(Previously Presented) The circuit of claim 11, wherein the control element is selected to cause the off-time of the switch to be sufficient to reduce a current in the diode to substantially zero during demagnetization of the transformer.

33.(Previously Presented) The circuit of claim 11, further comprising a resistor connected in series to the diode to reduce the off-time.

34.(Previously Presented) A circuit for providing power to a gaseous discharge lamp with a pre-determined specification, comprising:

a transformer having a primary winding and a secondary winding, said secondary winding being part of a resonant circuit;

connection nodes for coupling of the gaseous discharge lamp in series to the secondary winding;

a switch coupled in series to the primary winding, an on-time and an off-time of the switch being controllable by a control element, for generating a voltage pulse over the primary winding;

and

a diode directly coupled in parallel to the primary winding for demagnetizing the transformer during the off-time of the switch, wherein the off-time of the switch is selected so that oscillation which starts when the switch is closed is not interrupted when the switch is opened, and continues until the transformer is at least partly demagnetized, thereby avoiding need for feedback to control operation of the switch.

35. (Previously Presented) The circuit of claim 34, wherein the on-time is at least half of a resonance frequency of the resonant circuit.

36. (Previously Presented) The circuit of claim 34, wherein the off-time is sufficient to reduce a current in the diode to substantially zero during demagnetization of the transformer.

37. (Previously Presented) The circuit of claim 34, further comprising a resistor connected in series to the diode to reduce the off-time.

38.(Previously Presented) A method for providing power to a gaseous discharge lamp, comprising the acts of:

applying a number of voltage pulses to a primary winding of a transformer so as to produce each time a high-voltage pulse on a secondary winding of the transformer, wherein the high-voltage pulse is shaped by transformer inductances and capacitances at a secondary side of the transformer to create a lamp pulse;

applying the lamp pulse to the gaseous discharge lamp;

providing during an off-time, between every application of a voltage pulse which is applied during an on-time, a current path through a diode directly connected between the primary winding for primary current so that the transformer is demagnetized and saturation of the transformer is prevented; and

setting the off-time so that oscillation, which starts when a switch is closed to provide the on-time, is not interrupted when the switch is opened, and continues until the transformer is at least partly demagnetized, thereby avoiding need for feedback to control operation of the switch.

39. (Previously Presented) The method of claim 38, wherein the on-time is at least half of a resonance frequency of the resonant circuit.

40. (Previously Presented) The circuit of claim 38, wherein the off-time is sufficient to reduce a current in the diode to substantially zero during demagnetization of the transformer.

41. (Previously Presented) The circuit of claim 38, further comprising connecting a resistor in series to the diode to reduce the off-time.